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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,300	07/03/2003	Sang-Su Lee	Q75923	3197
23373	7590	10/14/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			YOHA, CONNIE C	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,300

Applicant(s)

LEE ET AL.

Examiner

Connie C. Yoha

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11 and 20 is/are rejected.
- 7) ☐ Claim(s) 5-10, 12-19 and 21-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


CONNIE C. YOHA
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Examiner took notice of the remarks and amendments made by applicant filed on 6/23/05.
2. A second non-final rejection is applied to the pending claims using newly cited reference.

Response to Amendment

3. This office action is in response to Amendment filed on 6/23/05.
Claim 2-9, 12-13, 15, 17, 19, 21-22 and 24 amended.
4. Claims 1-24 are pending.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim are rejected under 35 U.S.C. 102(b) as being anticipated by Walley et al, Pat. No. 6421283.

With regard to claim 1, Walley discloses a method of restoring defective memory cells, comprising: (a) checking all cells of a memory to determined whether the memory is defective at an operation start time (col. 4, line 13-20) (col. 4, line 30-21); (b) storing defect information, obtained as a result of the checking, in a memory controller when

the checking of all of the cells of the memory is over (col. 4, line 20-22); and (c) replacing defective cells in the memory with spare memory provided in the memory controller when there is a request for access to the defective cells of the memory (col. 4, line 22-25).

With regard to claim 3, Walley discloses an apparatus for restoring defective memory cells, comprising: a memory scan controller (fig. 1, 4, 304), which scans a memory in response to a control signal to determine whether at least one cell of the memory is defective at an operation start time and generates defect information (col. 4, line 13-22); and a memory controller (fig. 4, 308, 309), which receives the defect information and converts a requested external address into an internal address for accessing the memory, and replaces said at least one defective cell in the memory with spare memory (fig. 4, 309) provided in said memory controller, wherein spare memory, rather than the defective cell, is accessed by a system controller when the requested external address corresponds to the defective cell (col. 4, line 25-31).

With regard to claim 4, Walley discloses wherein the memory scan controller generates a memory replacement signal when a number of said defective cells in the memory exceeds a predetermined number of data registers (col. 4, line 25-31).

With regard to claim 11, Walley discloses wherein checking is determined complete by scanning for deactivation of a scan signal (col. 4, line 32-35) (also with regard to claim 2 and 20).

Allowable Subject Matter

Art Unit: 2827

6. Claim 5-10, 12-19, and 21-24 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not show the limitation of a memory controller having in combination with other features, a match detector which detects if an external address that matches the external address applied by the system controller exists among the external addresses stored in the first data registers; a controller which loads the external addresses of the at least one defective cell in the memory into the first data registers by referring to the defect information and replaces the at least one defective cell in the memory with the second data registers, depending on the detection result of the match detector, so that the second data registers can be accessed instead of the defective cell.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Shirley (6097644) and McClure (6731550) disclose a memory device having defective memory cells and replacement method thereof.

8. When responding to the office action, Applicants= are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

Art Unit: 2827

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (571) 272-1799. The examiner can normally be reached on Mon. - Fri. from 8:00 A.M. to 5:30 PM. The examiner's supervisor, David Nelms, can be reached at (571) 272-1787. The fax phone number for this Group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-0956.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov> should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


C. Yoha

October 2005


CONNIE C. YOH
PRIMARY EXAMINER